

Umatilla NF
Aquatic Restoration Project
Recreation and Visuals

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Project Description

The Umatilla National Forest proposes aquatic restoration activities on national forest system lands and on private lands, within and adjacent to the Umatilla National Forest, where there are cooperating landowners. The proposed action includes the applicable project categories (listed below) identified within the Aquatic Riparian Biological Opinion (ARBO II). The proposed action incorporates the program administration, general aquatic conservation measures, and Project Design Criteria (PDC) for aquatic restoration activity categories as described within the ARBO II. All proposed activities undertaken in each category listed below would be fully consistent with management direction in the Umatilla Land and Resource Management Plan (as amended).

The project categories to be addressed within this analysis are:

1. Fish Passage Restoration (Stream Simulation Culvert and Bridge Projects; Head cut and Grade Stabilization; Fish Ladders; Irrigation Diversion Replacement/Relocation and Screen Installation/Replacement)
2. Large Wood, Boulder, and Gravel Placement (Large Wood and Boulder Projects; Engineered Logjams; Porous Boulder Weirs and Vanes, Gravel Augmentation; Tree Removal for Large Wood Projects)
3. Dam, Tide Gate, and Legacy Structure Removal
4. Channel Reconstruction/Relocation
5. Off- and Side-Channel Habitat Restoration
6. Streambank Restoration
7. Set-back or Removal of Existing Berms, Dikes, and Levees
8. Reduction/Relocation of Recreation Impacts
9. Livestock Fencing, Stream Crossings and Off-Channel Livestock Watering
10. Piling and other Structure Removal
11. In-channel Nutrient Enhancement
12. Road and Trail Erosion Control
13. Juniper Removal
14. Riparian Vegetation Treatment (controlled burning)
15. Riparian Vegetative Planting
16. Bull Trout Protection
17. Beaver Habitat Restoration
18. Fisheries, Hydrology, Geomorphology Wildlife, Botany, and Cultural Surveys in Support of aquatic restoration.

Introduction

The recreation opportunities available on National Forest lands broadly benefit users. For many Americans, public lands provide the only means of experiencing outdoor recreation. The settings and experiences of these lands are important to an overall healthy lifestyle of the American public. Managing recreation resources includes the analysis of projects in regard to how the activities will affect developed and undeveloped recreation sites, uses and activities, as well as recreation settings in which the user experience is presented. This report address the existing situation and potential project effects to, General Forest Areas, Wilderness, Wild and Scenic Rivers, Scenic Areas, Inventoried Roadless Areas (IRAs), and Potential Wilderness Areas (PWAs).

Scale of Analysis

The Aquatic Restoration project planning area the Umatilla National Forest. The recreation analysis considered the area within the forest boundary, unless otherwise noted.

Methodology for Analysis

Several methods were used to identify primary recreational uses of the Umatilla NF by the public. A nationally recognized classification system called the Recreational Opportunity Spectrum is used to describe different recreation settings, opportunities, and experiences that help guide recreation management decisions and activities on National Forest system lands (USDA Forest Service 1986).

The Forest's geographic information system (GIS) was used to analyze the proposed activities in regard to recreation use and facilities, dispersed recreation sites, and the recreation opportunity spectrum classes within the analysis area. The recreation analysis considered the area within the proposed project area, unless otherwise noted. GIS was also used to identify Wilderness, Wild and Scenic Rivers, Scenic Areas and Scenic Byways, Inventoried Roadless Areas (IRAs) and Potential Wilderness Areas (PWAs).

Measure

Activities associated with any proposed aquatic restoration activities that occur in riparian areas located near or adjacent to developed recreation sites or trailheads, or on or alongside/adjacent to forest roads that access those recreation sites, may cause temporary loss of access or delays of access for the recreating public. Dispersed (user-created) camp sites that may be temporarily or permanently inaccessible if located in, or within close proximity to, riparian areas

The indicators that are used to measure effects to recreation resources are the following:
Developed and Dispersed Camping:

- Recreation experience and availability (See recreation goals A2, and A6)

Access and Dispersed Recreation Activities

- Travel Access, Safety, and Desired Use (See recreation goal A2)

Recreation Opportunity Spectrum

- Level of development and settings (See ROS definitions and map)

Sense of Place

- Characteristics consistent with Recreation Niche Statement
(See Umatilla Forest Recreation Niche Statement)

The indicators that are used to measure effects on Wilderness and Wild and Scenic Rivers are compliance with the site specific management plans standards and guides for each of these areas.

Regulatory Framework

The Umatilla Forest Land and Resource Management Plan (LRMP) also establishes goals related to specific resources by management area.

The Forest Service uses a nationally recognized classification system called the recreation Opportunity Spectrum (ROS) to describe different recreation settings, opportunities and experiences to help guide recreation management activities (USDA Forest Service 1986).

The LRMP has recognized the importance of recreation settings. Each Management Area (MA) is assigned a desired ROS.

Wilderness: A wilderness area is designated by congressional action under the Wilderness Act of 1964 and other wilderness acts. Wilderness is undeveloped Federal land retaining primeval character and influence without permanent improvements or human habitation (Umatilla Forest Plan, page GL-45).

Wild and Scenic Rivers: Those rivers or sections of rivers designated as such by congress as Wild, Scenic or Recreational under the 1968 Wilde and Scenic Rivers Act as supplemented and amended.

- **Wild River** – Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with the watershed or shorelines essentially primitive and waters unpolluted.
- **Scenic River** – Those rivers or sections of rivers that are free of impoundments, with watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.
- **Recreational River** – Those rovers or segments of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and may have undergone some impoundment or diversion in the past.

(Umatilla Forest Plan, page GL-46).

Scenic Areas – Places of outstanding or matchless beauty which require special management to preserve these qualities. (Umatilla Forest Plan, page GL-36).

Inventoried Roadless Areas (IRAs) - These areas were identified in the 2001 Roadless Area Conservation Rule in a set of inventoried roadless area maps, contained in Forest Service Roadless Area Conservation Final Environmental Impact Statement, Volume 2, dated November 2000, which are held at the National headquarters office of the Forest Service, or any subsequent update or revision of those maps (36 CFR 294.11). These areas were set aside through administrative rulemaking and have provisions, within the

context of multiple use management, for the protection of IRAs. Most IRA boundaries are substantially identical to those identified as “Roadless Areas” referred to in the 1982 planning rule (36 CFR 219.17) and identified by the Forest Plan, FEIS, Appendix C; however some localized, minor differences in boundaries may exist.

All roadless area acres were allocated to various management area strategies as disclosed in the Umatilla Forest Plan FEIS, Appendix C and described in the Record of Decision (page 6-9) for the FEIS. Some management area strategies were intended to retain the undeveloped roadless character of the roadless area and some management area strategies were intended to develop the lands with timber harvest and road building activities; thus forgoing roadless character.

The purpose of IRA analysis is to disclose project scale impacts to IRAs and determine whether the impacts would substantially alter the undeveloped character of the IRA.

Potential Wilderness Areas (PWAs) - The Umatilla National Forest conducted a Potential Wilderness Area (PWA) inventory for forest plan revision and updated the inventory in 2010 (2010 PWAs) consistent with agency policy at that time. Only acres of land inventoried as PWA were carried forward into the forest plan revision evaluation and wilderness recommendation process. The forest plan draft EIS was released in 2014 and the 2010 PWA inventory was used to evaluate, analyze, and recommend wilderness in the alternatives.

The purpose of the PWA analysis is disclose project scale impacts to PWAs and determine whether or not the impacts would substantially alter the undeveloped character of the PWA, disclose possible impacts to future forest plan revision wilderness recommendations, and consistency with the forest plan.

Forest Plan Direction

Forest Goal –Recreation Resources

In coordination with and awareness of recreational opportunities on other lands, provide a wide variety of recreation opportunities in an attractive setting, and make those opportunities available to all segments of society.

Forest Goal - Wilderness

Preserve, protect and improve the resources and values of the Forest’s wilderness areas.

Forest Goal – Wild and Scenic Rivers

Protect and enhance the outstandingly remarkable values and free flowing condition of the Wild and Scenic Rivers.

Recreation Opportunity Spectrum

“The Recreation Opportunity Spectrum offers a framework within which to explicitly vary situation attributes (access, density, etc.) to produce different recreation settings”. (Recreation Opportunity Spectrum, p. 7) The classification primarily considers vehicular travel mode, and the type of facilities provided within an area.

The ROS classes found in this project area include: Wilderness Primitive, Wilderness Semi-Primitive, Wilderness Transitional, Semi-Primitive Non-Motorized, Semi-Primitive Motorized, Roaded Natural, and Roaded Modified.

See Maps 3 and 4

Sense of Place

Sense of place is addressed to display how the area is perceived by the public, and to display the physical setting in which the project area lies. The Umatilla NF uses the Sense of Place definition: “*The identity of a place created by people’s social meanings and attachments, including valued scenery and recreation settings, cultural and spiritual values, economic, social and biophysical characteristics.*” Managers using the concept of sense of place must define a specific framework for the definition and use of sense of place.

The Forest Service has developed the Recreation NICHE process for recreation facilities analysis. This process was developed to define the particular recreation niche the forest could provide for the public. The Forest defined spatial units that had particular characteristics which could support a defined set of recreational experiences. The Umatilla NF conducted a recreation facilities analysis which characterized the forest and defined spaces in terms of use and sense of place. (Umatilla Recreation Niche paper-2007).

The project area lies primarily within the Blue Mountains. The characterization of this area is as follows:

Umatilla Forest Niche Statement

Emphasis Statement: This scenic country rests on the northern edge of the John Day Valley to the Palouse where solitude and tradition are a way of life. For centuries this wild landscape has provided sustenance for Native Americans, early settlers, miners and modern day explorers creating a human connection with the land that cannot be denied. The Umatilla National Forest is known nationally for its quality big game viewing and hunting. With growing cities and small communities surrounding the forest, it’s a place to teach and maintain traditional values and recreation activities (hunting, fishing, horseback riding, hiking, gathering, viewing, and winter sports). The forest emphasizes ways for non-traditional visitors to enjoy these activities. Rustic facilities showcasing a rich heritage capture the traditional spirit and connect new and old generations to this timeless landscape.

Forest-wide Settings, Special Places, and Values: The forest is a vast landscape that spans the Blue Mountains of southeast Washington and northeast Oregon. From rugged mountain ridges and forested hills to sage brush plains, this forest is home to over 300 different wildlife species including one of the largest elk herds in the nation. Wild and

Scenic Rivers, Wilderness Areas and other undeveloped areas form the core of this wild landscape. Ranching, logging and grazing are an integral part of this place and have shaped the culture and the land. Freedom, solitude and scenery abound contributing to a quality of life that draws people to this place. Easy access and well located facilities provide incredible settings on this broad landscape.

Concentrated Recreation – Key high recreation use corridors on the forest where more developed facilities will be concentrated. Opportunities exist to connect new visitors to the land and for use to be dispersed out to more remote settings.

Hunting/Dispersed – General forest areas where more rustic facilities support hunting and other traditional recreation activities such as OHV riding, horseback riding and hiking.

Wilderness/Backcountry – Designated Wilderness, Wild and Scenic Rivers and other undeveloped areas that are remote and provide a high degree of solitude with an emphasis on self-reliance.

Forest-wide Activities/Opportunities/Experiences: The Forest offers a mix of day-use and overnight facilities in support of traditional activities including hunting, fishing, winter sports, gathering and viewing. Exceptional hunting is the major recreation draw for the forest. Overnight facilities are common, small, and rustic supporting day-use activities. The Area's rich history is showcased as an integral part of the recreation program to further the connection to the land with new visitors.

Concentrated Recreation – Focus higher developed recreation in this setting with key activities of viewing, hiking, picnicking and camping. Work with local communities to define the new/non-traditional visitor demands and focus the outcome in this setting.

Hunting/Dispersed - Focus hunting opportunities in this setting with other traditional activities: OHV riding, horseback riding, backcountry skiing, snowmobiling, gathering and viewing.

Wilderness/Backcountry - Focus on opportunities requiring more self-reliance including, hunting, fishing, horseback riding, hiking and backpacking.

Affected Environment

Existing Condition

The existing condition for recreation resources is considered in terms of facilities, travel and access, recreation opportunity spectrum and sense of place.

Developed Recreation:

The forest manages more than 160 developed recreation sites across the four Ranger Districts which include 41 campgrounds, 2 organization camps, 13 cabin rentals, winter warming shelters, viewpoints, picnic areas, 70 trailheads and several winter warming shelters.

There are approximately 1,400 miles of trail on the forest. The trail system includes the full range of trail class from Trail Class I (least developed) to Trail Class 5 (most developed-typically wheelchair accessible interpretative trails). There are about 400 miles of trail located in the wilderness areas. Some 60% of the trail system is managed for pack and saddle use while many of these trails are also open to motorized travel. The trail system includes about 270 miles are Groomed snowmobile routes. The forest accomplishes maintenance on approximately 400 miles of trail annually. Trail maintenance activities are focused on user safety and meeting environmental objectives.

Undeveloped Campsites (aka Dispersed Sites):

There is not a comprehensive inventory of *undeveloped campsites* on the forest; however there are a hundreds of traditional dispersed campsites scattered throughout. A generic description of a dispersed campsite consists of a user-made area that is generally adjacent to a developed road. The site often has a meat pole in the trees, a rock fire ring and a hardened parking/camping surface for one to three families. Dispersed camping has traditionally been a popular activity in the area, particularly during big game hunting season. Some dispersed sites have been regularly used by the same families or group for generations. Other sites are less well used additional opportunities to seek solitude.

Wilderness:

There are three congressionally designated Wilderness areas on the forest; the 177,000 acres Wenaha-Tucannon Wilderness located on the Pomeroy ranger District, the 20,000 acre North Fork Umatilla Wilderness located on the Walla Walla Ranger District and the 121,000 acre North Fork John Day Wilderness located on the North Fork John Day Ranger District. There is a management plan in place for each wilderness area. These plans identify goals, desired conditions and contain standards and guides for management of the areas.

Wild and Scenic Rivers:

There are three congressionally designated Wild and Scenic Rivers; the Wenaha (Pomeroy RD), Grande Ronde (Walla Walla RD) and the North Fork John Day (North Fork John Day RD). There is a comprehensive river management plan in place for each of the rivers. The river plan identify specific outstanding remarkable values that are to be protected and enhanced.

The Blue Mountains Scenic Byway was established in 1989 under the National Scenic Byway Program. The 130 miles Byway is oriented east/west from the Columbia River near Arlington to Baker City, Oregon. It winds its way for approximately 45 miles through the Heppner and North Fork John Day Ranger Districts.

The 35,000 acre **Vinegar Hill/Indian Rock National Scenic Area** is located on the southernmost portion of the forest adjacent to the North Fork John day Wilderness on the NFJD RD (22,000 acres) and on portions of the Malheur NF (13,000). Known for its spectacular vistas, Vinegar Hill is the highest point on the forest at an elevation of 8,100 feet.

Recreation Opportunity Spectrum

Currently the recreation opportunity is classified as shown in the table below. The classifications provide an understanding of the recreation setting in terms of access, remoteness, naturalness, facilities, social encounters, visitor impacts and visitor management.

Table 1 Acres by ROS Classification

ROS CLASSIFICATION	ACREAGE	PERCENT OF TOTAL
Wilderness Primitive	117,601	9
Wilderness Semi-Primitive	185,094	13
Wilderness Transitional	1,538	<1
Semi-Primitive Non-Motorized	51,292	4
Semi-Primitive Motorized	142,698	11
Roaded Natural	442,555	33
Roaded Modified	385,885	29
Total	1,336,664	100

The area is divided into ROS classifications primarily by the available roads, facilities and expected social encounters.

Sense of Place

The sense of place is envisioned in the forest recreation niche statement, description of forest wide settings, values and special places, and forest wide activities, opportunities and experiences described above.

Inventoried Roadless Areas:

24 IRAs are identified on the forest totaling approximately 275,000 acres. These areas are managed per direction in the forest plan and per the 2001 Roadless Conservation Rule. Some roadless areas allow motorized use on trails and cross-country snowmobile use. (See maps 1 and 2).

Potential Wilderness Areas:

The 2010 Umatilla National Forest Potential Wilderness Area (PWA) inventory identified 26 PWAs across the forest totaling approximately 300,000 acres. They range in size from 5 to 67,120 acres and typically substantially overlap IRAs. Like IRAs, PWAs are substantially undeveloped and appear natural. For example, signs of development- like the presence of stumps, change in canopy from harvest activities is not readily apparent to the casual observer. Maintenance level 2 or higher roads and are not

present though maintenance level 1 roads may be present. These areas were carried forward into forest plan revision evaluation and wilderness recommendation process.

Environmental Consequences

Effects of No Action

Direct and Indirect and Cumulative Effects:

The no action alternative would perpetuate the existing management of the setting, facilities and access.

Developed and dispersed site campers and cabin renters would remain undisturbed by noise, smoke, traffic or other aquatic restoration activities. Dispersed campsite use patterns would remain the same. The forest trail system would not be affected.

There would be no impacts to Wilderness areas, Wild and Scenic Rivers the Blue Mountains Scenic Byway or the Vinegar Hill/Indian Rock Scenic area.

The recreation opportunity spectrum would not be affected by the No Action alternative. The sense of place would see no effects by the No Action alternative.

There would be no impacts to IRAs or PWAs.

Over time it would be expected that soil erosion, soil compaction, increased stream sedimentation, impaired hydrologic function, dewatered wetlands, and displaced riparian wildlife may cause unwanted impacts to riparian vegetation associated with ongoing activities.

Effects of Action Alternatives

Developed and Dispersed Recreation: Under Alternative 2 aquatic restoration activities would be implemented within riparian areas as prescribed in the project design criteria for the proposed restoration project. In regard to recreation resources implementing the proposed action Forest-wide there is the potential to engage in aquatic restoration activities at up to 53 developed recreation sites (which includes 16 campgrounds and 25 trailheads), and a number of dispersed recreation sites. There are approximately 315 miles of motorized and non-motorized trail, in over 750 trail segments, located in riparian areas outside of designated wilderness areas. Restoration projects could also include activities outside of riparian areas-such as road or trail decommissioning and relocation that has the potential to affect some dispersed camping sites or recreational access.

The campgrounds, rental cabins and dispersed campsites could also be affected by *smoke* from prescribed burning. This could coincide with some of the more popular camping periods (fall hunting season) because conditions during late fall are generally the best

times for conducting prescribed burning. Late fall campers (primarily hunters) would be most likely affected.

Some recreationists could be displaced from their desired dispersed campsite, but the effects would be limited to a small number of sites at one time and would cease as soon as project activities are complete. Hunters may be displaced from their favorite dispersed camping site for one season during the prescribed burning window. Numerous alternative dispersed campsites would continue to be available. Project design criteria would include seeking opportunities to conduct burning activities outside of hunting seasons to the extent practicable. Media releases, and signing at trailheads and campgrounds would take place to notify visitors well in advance of proposed activities.

Restoration activities could reduce or eliminate some dispersed sites located in riparian areas. Some dispersed camping opportunities may be lost but generally there are numerous other areas on the forest that could replace lost opportunities for dispersed camping.

Other concerns would occur during project implementation when equipment is working on and along roads. Forest standard operating procedures would include signing of activity along associated roadways.

Wilderness and Wild and Scenic Rivers-Wild Segments: Mechanized or motorized equipment is prohibited by the 1964 Wilderness Act and will not be used. Proposed exemptions to use prohibited prohibited/mechanized equipment in Wilderness will be analyzed and documented in a site specific Minimum Requirements Analysis (MRA). The interagency Minimum Resource Decision Guide (MRDG) would be utilized to facilitate the analysis and a decision by an authorized officer. All project activities would be in compliance with the Wilderness Act and to the wilderness specific management plan standards and guides and the forest plan.

IRAs: Projects will be designed to protect the undeveloped character of the area. Project activities involving road construction or reconstruction and the cutting, sale or removal of timber in inventoried roadless areas are not allowed unless authorized by the Chief of the Forest Service. A site specific analysis would be required to consider an exemption from these prohibited activities. All projects would be in compliance with the 2001 Roadless Conservation Rule.

PWAs: Projects will be designed to protect the undeveloped character of the area. Proposed project activities that may result in lasting evidence of development (such as more than the incidental presence of stumps from tree cutting activities or disturbance from road construction) that may reduce the number of acres meeting PWA criteria would need to be analyzed in a site specific document. The analysis would need to disclose the effects of actions that could affect future wilderness decisions associated with forest plan revision.

Aquatic restoration projects would generally have positive long term effects on Wilderness, W&SRs, IRAs, PWAs and Scenic Areas in that activities that result in improved watershed conditions help meet management goals identified for these areas.

Travel and access

Some open roads or portions of open roads may be temporarily closed during project activities and would be re-opened as soon as possible after restoration work is completed, especially during hunting season.

Generally, there would be no changes to the existing travel system as a result of restoration activities, though there is a potential for restoration activities to include decommissioning and relocation of roads or trails that are open to the public. Existing roads and trails that are open to the public would continue to be available. Increased vehicle traffic during project activities may deter localized recreational user activities.

Trails: Restoration activities would take place near or adjacent to many portions of the trail system. Restoration activities may deter localized recreational user activities during implementation. The trail system would continue to be available during and after restoration activities. Generally, there would be no changes to the trail system though some trail segments may be decommissioned and relocated.

Recreation Opportunity Spectrum

The restoration activities do not propose actions that would alter effects to the recreation opportunity spectrum in any appreciable way. Some undeveloped campsites may be altered by treatment but these changes would not alter the opportunities to a degree that would change the ROS classifications.

Sense of Place

The project is not expected to make any significant effects that are inconsistent with the Forest niche statement that describes the desired sense of place. The usage and settings are expected to remain consistent.

Cumulative Effects

The past, present and reasonably foreseeable activities that would contribute to the accumulation of effects in conjunction with this project are those that would alter the set of recreation opportunities, and experiences that are currently available to the public. These opportunities and experiences are generally provided by developed and that establishes the level of development and motorized use, and the sense of place.

Proposed restoration activities would be designed to be in compliance with the Forest Plan, forest wide standards and guidelines for recreation (p. 4-47) with applicable site specific Wilderness, W&SR, and Scenic Area management plans, and IRA management per the 2001 Roadless Area Conservation Rule.

Visual Resource

The visual resource is defined as the scenery as seen by a viewer from a given location, or a travel way like a road or trail. Umatilla National Forest Land and Resource Management Plan direction is to continue to emphasize visual resource quality across the forest through visual management practices. Forest Wide Standards and Guidelines direct the forest to follow direction given in the Forest Service Visual Management System. This system identifies visual quality objectives for different areas (VQOs). The VQO system visual quality objectives in 5 classes from Preservation to Maximum Modification. Visual Quality Objectives are identified in Forest Plan Management Areas (MAs).

The Five classes are:

- **Preservation:** Provides for ecological changes only.
- **Retention:** In general means man's activities are not evident to the casual forest observer.
- **Partial Retention:** Man's activities may be evident but must remain subordinate to the characteristic landscape.
- **Modification:** Man's activities may dominate the characteristic landscape, but must, at the same time, utilized naturally established form, line, color and texture. It should appear as a natural occurrence when viewed in foreground or middleground.
- **Maximum Modification:** Man's activities may dominate the characteristic landscape but should appear as a natural occurrence when viewed as background.

(National Visual Landscape Management: Volume 2, Chapter 1, Glossary pp.44-45).

Environmental Consequences

Effects of No Action

Direct and Indirect and Cumulative Effects:

The no action alternative would perpetuate the existing management setting.

Visual resources across the landscape would remain unchanged as aquatic restoration activities would not occur. Visual resources would continue to be affected by natural process and other activities.

Effects of the Action Alternative;

Visual resources could be impacted both negatively and positively by aquatic restoration activities. Mitigation measures that are needed to meet Forest Plan VQOs for a project area would be identified in project design criteria. There may short term effects to visual resources as a result of restoration activities, such as the presence of freshly disturbed soil or unnaturally appearing openings. However, it is expected that VQOs for the area would be met after a period of 2-5 years as mitigating activities such as replanting native vegetation as prescribed in project design criteria take hold.

Cumulative Effects

The past, present and reasonably foreseeable activities that would contribute to the accumulation of effects in conjunction with this project are those that would alter visual resources to a point where VQOs for areas would not be met.

Proposed aquatic restoration activities would be designed to be in compliance with Forest Plan, forest-wide standards and guidelines and with Management Area specific VQOs for managing the visual resource. Visual effects from aquatic restoration activities are not expected to have long term negative impacts to the visual landscape.

References

Umatilla Land and Resource Management Plan.

The Recreation Opportunity Spectrum: A Framework for Planning, Management, and Research, General Technical Report PNW-98, 1979, p. 7.

Umatilla National Forest Recreation Niche, 2007

National Forest Landscape management Volumes 1 and 2 (Forest Service Handbook #434 and #462,

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Attached Maps

Map 1-Aquatic Restoration Project: North Zone Project Area

Map 2-Aquatic Restoration Project: South Zone Project Area

Map 3-Aquatic Restoration Project: North Zone ROS

Map 4-Aquatic Restoration Project: South Zone ROS